



GREENLAND
MINERALS AND ENERGY LTD

Materials For An Energy Efficient Future



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JORC Code (2012) Competent Person Statement – Mineral Resources and Ore Reserves

The information in this report that relates to Mineral Resources is based on information compiled by Mr Robin Simpson, a Competent Person who is a Member of the Australian Institute of Geoscientists. Mr Simpson is employed by SRK Consulting (UK) Ltd ("SRK"), and was engaged by Greenland Minerals and Energy Ltd on the basis of SRK's normal professional daily rates. SRK has no beneficial interest in the outcome of the technical assessment being capable of affecting its independence. Mr Simpson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Robin Simpson consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in the statement that relates to the Ore Reserves Estimate is based on work completed or accepted by Mr Damien Krebs of Greenland Minerals and Energy Ltd and Mr Scott McEwing of SRK Consulting (Australasia) Pty Ltd.

Damien Krebs is a Member of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the type of metallurgy and scale of project under consideration, and to the activity he is undertaking, to qualify as Competent Persons in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). The Competent Persons consent to the inclusion of such information in this report in the form and context in which it appears.

Scott McEwing is a Fellow and Chartered Professional of The Australasian Institute of Mining and Metallurgy and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as Competent Persons in terms of The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code, 2012 edition). The Competent Persons consent to the inclusion of such information in this report in the form and context in which it appears.

The mineral resource estimate for the Kvanefjeld Project was updated and released in a Company Announcement on February 12th, 2015. The ore reserves estimate was released in a Company Announcement on June 3rd, 2015. There have been no material changes to the mineral resource estimate, or ore reserves estimate since the release of these announcements.

Greenland Minerals and Energy Ltd

ASX-Listed, Greenland-Focused Mineral Explorer and Developer

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Board

Non-Executive Chairman	Tony Ho
Managing Director	Dr John Mair
Non-Executive Director	Simon Cato
Non-Executive Director	Wenting Chen

Top Shareholders

Shenghe Resources Holding	125M shares (12.5%)
Global X Uranium ETF	92M shares
Tracor Limited	53M shares

Capital Structure

Shares outstanding	1004M
Options outstanding	187M ex \$0.08, Sept 20 2018
	7.5M ex \$0.2, Feb 24 th 2018
	7.5M ex \$0.25, Feb 24 th 2018
Undiluted market capitalization	A\$150M (@15 cents)

Kvanefjeld Project Ownership - 100%

GMEL'S VISION



To develop a stable, long-term source of materials essential for clean energy generation and energy efficient technologies

Increasing International Focus on Arctic Resources

Greenland – the gateway to the Arctic

The Arctic region is host to numerous world-class mines

Greenland is increasingly the centre point of Arctic resource focus due to:

- *Political stability with increasing independence*
- *Political push to move toward a natural resource-based economy*
- *Numerous mineral resource projects awaiting development*
- *Mining licenses being issued*
- *Opening of Arctic shipping lanes providing access to Asia-Pacific*

A growing number of countries are looking to participate in the establishment of a new generation of mines in Greenland



Southern Greenland: A Readily Accessible Location

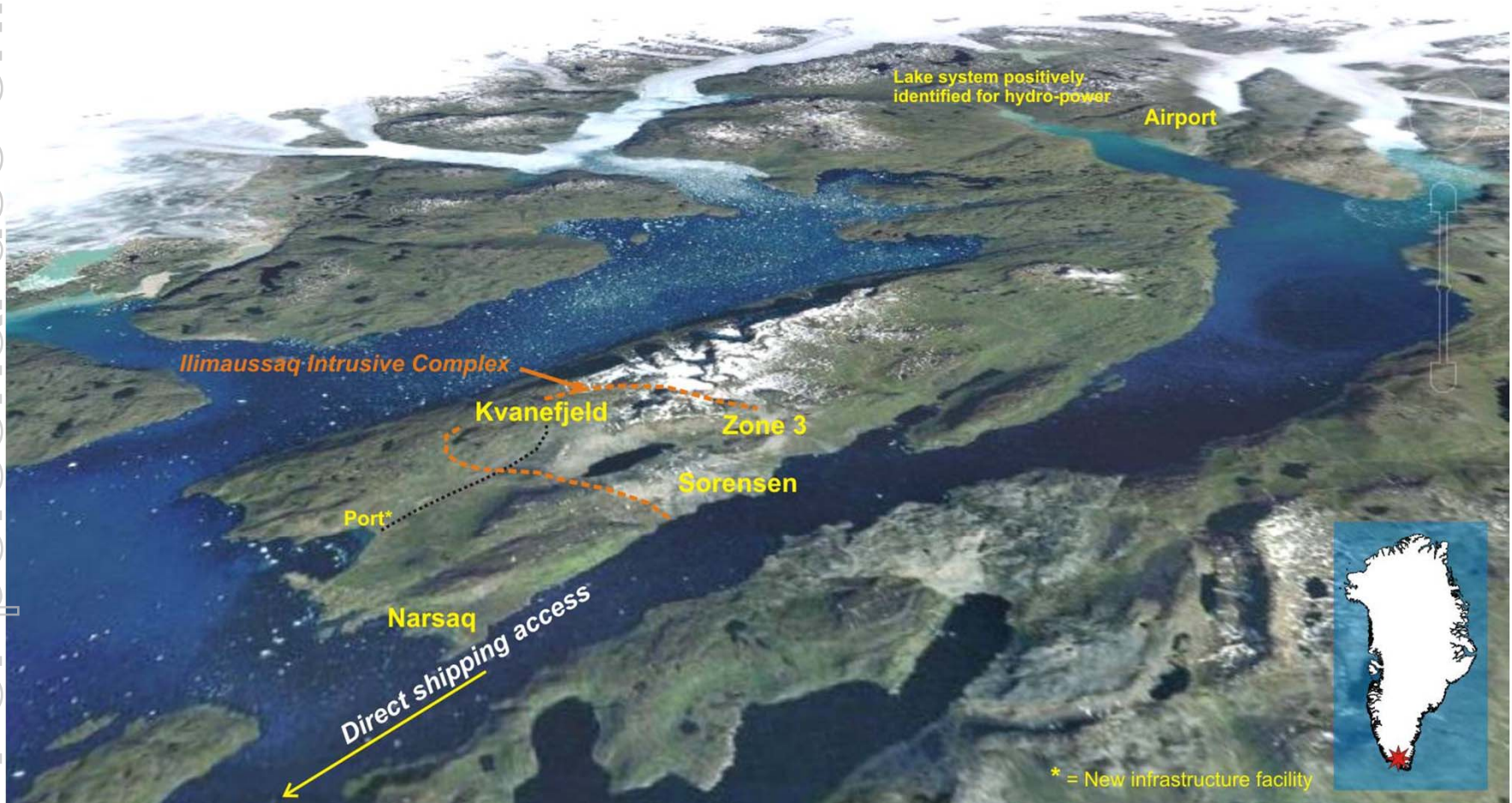
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“ Year-round direct shipping access, airport nearby,
” hydropower opportunities

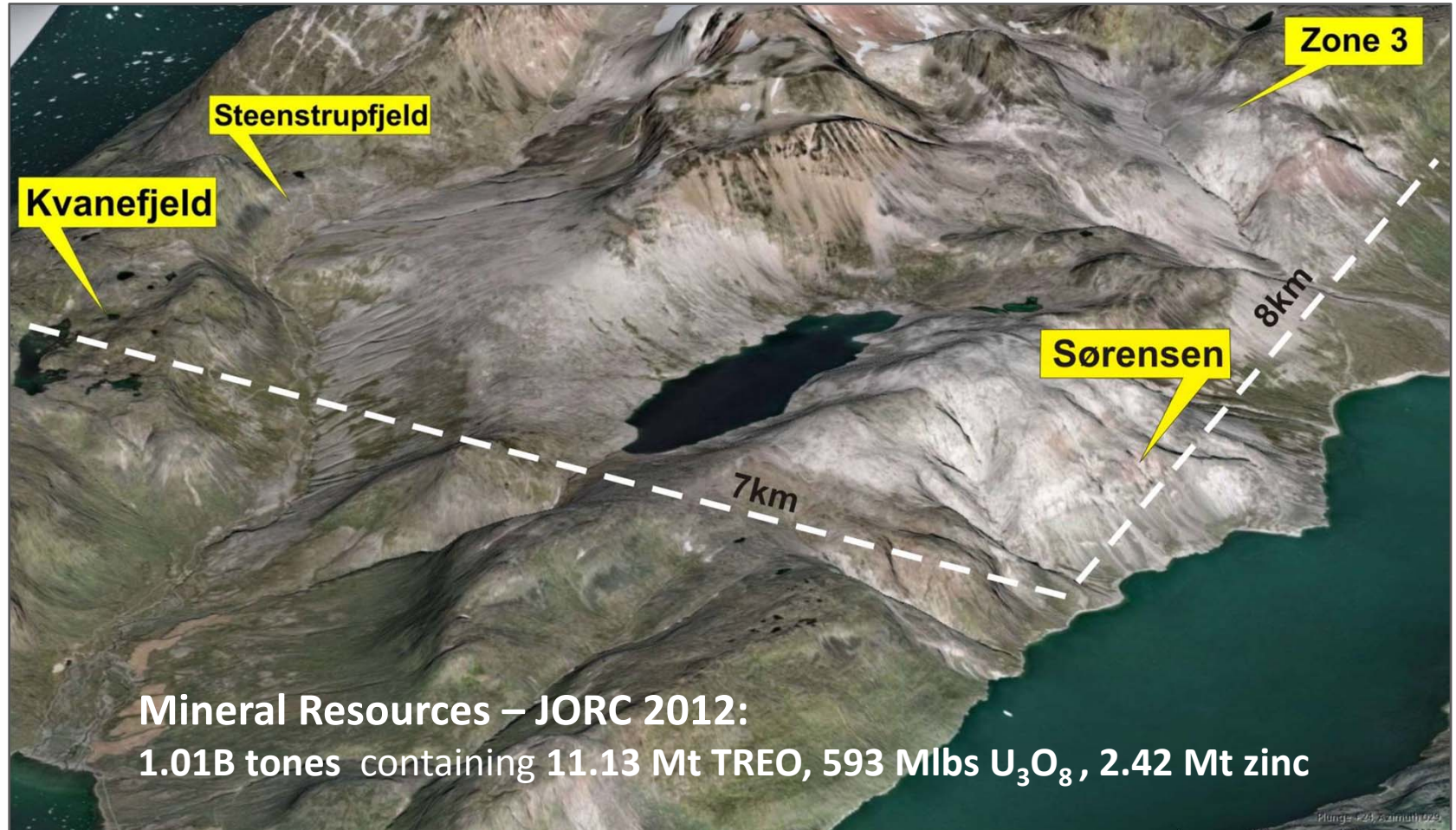
Project Area Hosts Vast Rare Earth and Uranium Resources

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“ >1 billion tonnes defined (JORC 2012),
” <15% of prospective area evaluated

Mineral Resources – Multiple Deposits



Mineral Resources – JORC 2012:
 1.01B tones containing 11.13 Mt TREO, 593 Mlbs U₃O₈, 2.42 Mt zinc

37 Year Mine Reserves at Kvanefjeld Deposit - 2015

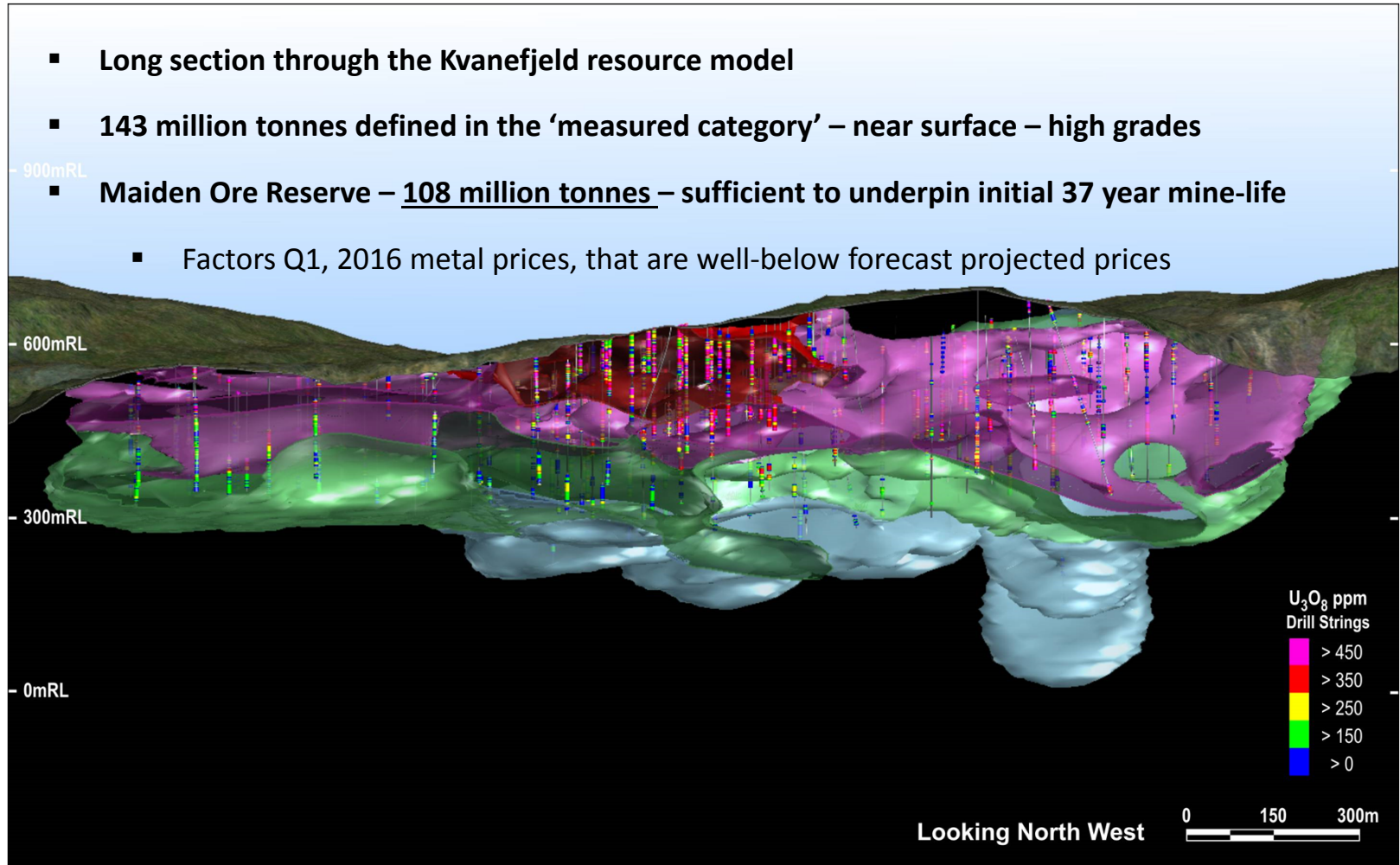
Classification (JORC 2012)	Inventory (Mt)	REO (ppm)	U ₃ O ₈ (ppm)	Zn (ppm)
Proven	43	14,700	352	2,700
Probable	64	14,000	368	2,500
Total	108	14,300	362	2,600

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Kvanefjeld Deposit – Starting Point

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- Long section through the Kvanefjeld resource model
- 143 million tonnes defined in the ‘measured category’ – near surface – high grades
- Maiden Ore Reserve – 108 million tonnes – sufficient to underpin initial 37 year mine-life
 - Factors Q1, 2016 metal prices, that are well-below forecast projected prices



Advantageous, Pilot Plant Proven Metallurgy

Residues

Flotation Tailings
(>90% vol)

Refinery Tailings
(<10% vol)

Products

Zinc Concentrate

Fluorspar

Uranium Concentrate

Rare Earth Intermediate concentrate

Mine and Concentrator

Leach Circuit

Rare Earth Separation

Rare Earths Metals
Rare Earth Oxides
Rare Earth Alloys



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Magnets – A Vital Growth Area



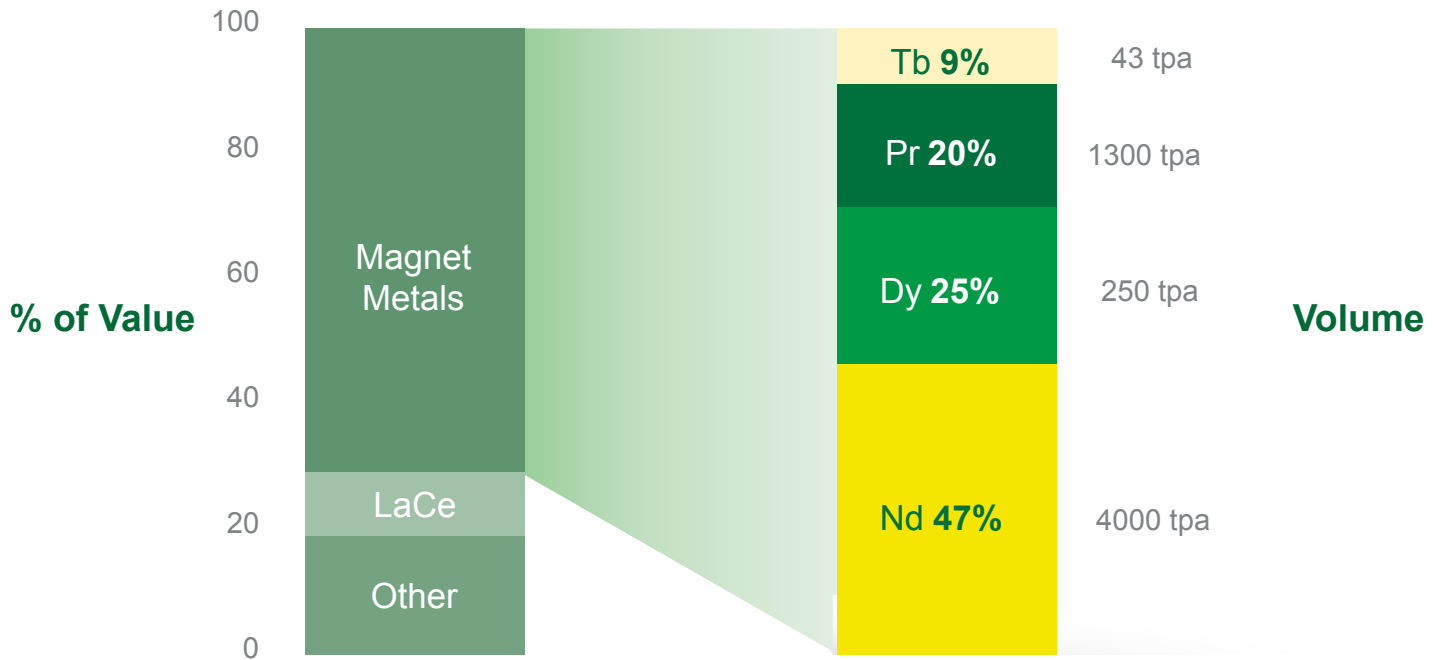
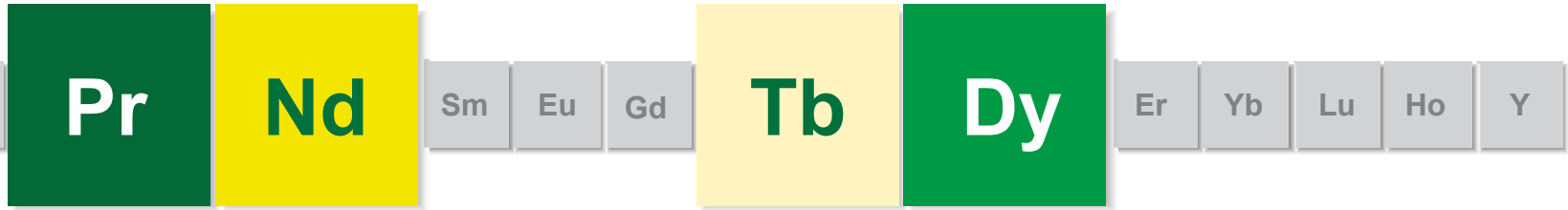
Magnetism:
‘the interface between electricity and motion’

- Rare earth metals make the worlds strongest permanent magnets
- Key to clean energy generation and efficient energy use
- Ongoing electrification of transport systems and push to increased energy efficiency driving *major* demand growth



Magnet Metals Are At The Heart of Kvanefjeld

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Uranium, a key by-product is set to contribute ~10% of revenues

[See Company Announcements, May 25th, 2015, and April 6th, 2016]

Demand for Rare Earth Magnet Material

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US\$ Billion

12

6

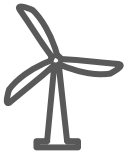
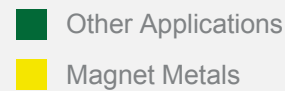
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2008

2012

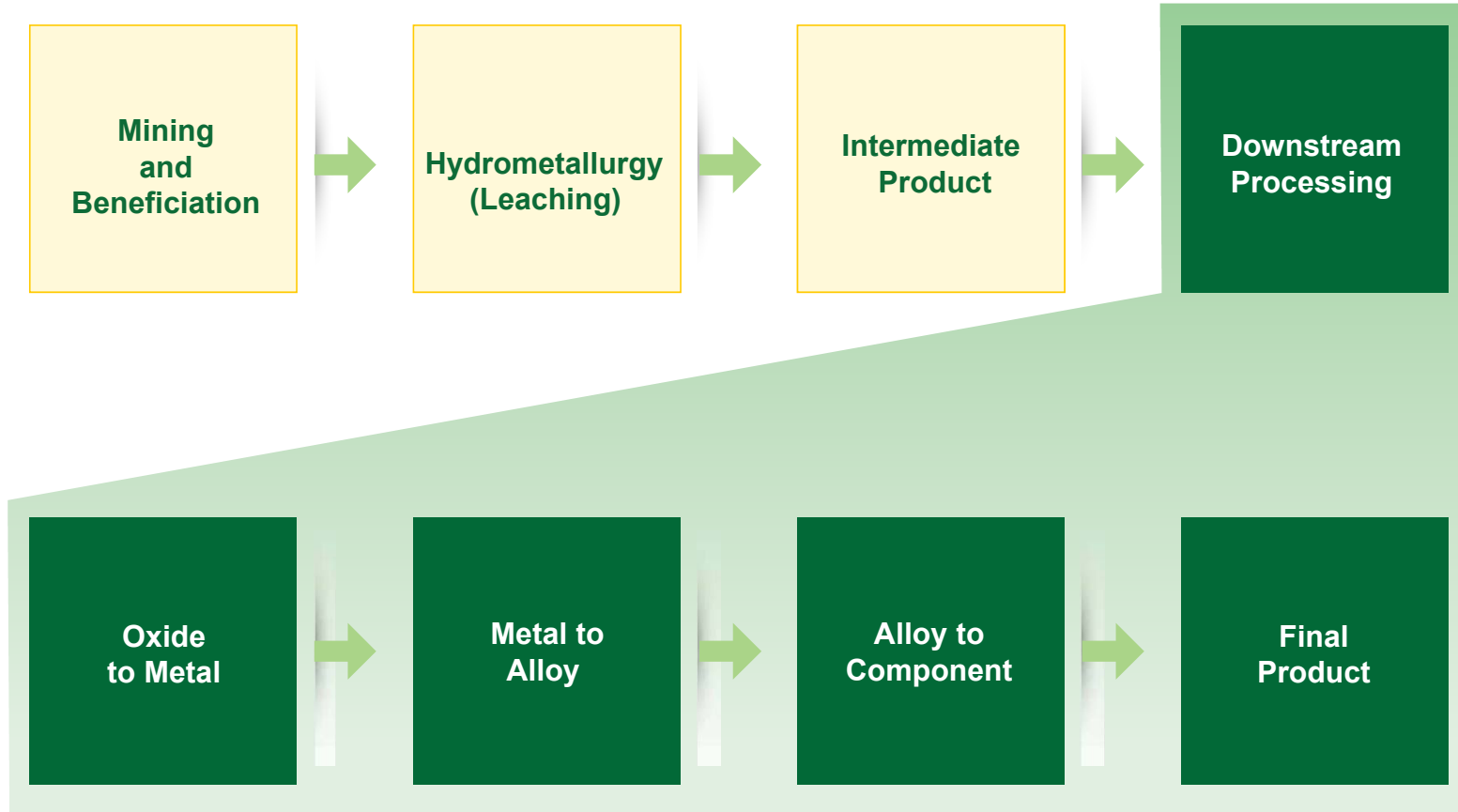
2016

2020



The Rare Earth Supply Chain

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- China is the world-leader in downstream processing technology and capacity
- Major reforms to RE industry in China is leading to reductions in primary mine supply
- New, stable, long-life, cost-competitive mines needed – [Kvanefjeld]

‘Strategic Partner’: Shenghe Resources Holding

- GMEL and Shenghe have commenced strategic co-operation with the aim of jointly developing Kvanefjeld
- Shenghe is a leading rare earth company, very strong technical expertise, large down stream processing capacity, strong international customer network
- Shenghe is 14.9% owned by one of China’s premier technical institutes **IMUMR**, that is a world leader in rare earth processing technology
- Shenghe now a **12.5%** shareholder in GMEL, commenced technical co-operation to enhance the project and align with down steam processing
- Utilising access to technology to recover addition products – targeting Li, Sc, Zr, Hf,

'Strategic Partner': Shenghe Resources Holding

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Strategy: – Optimise and Integrate

- **GMEL:** Premier specialty metal project
- **Shenghe:** Leading processing technology,
 - ✓ *International customer base,*
 - ✓ *Processing facilities in China, Vietnam,*
 - ✓ *Considering establishing new international facilities*
 - ✓ *Kvanefjeld could feed a number of facilities globally*
- **Opportunity:** Major structural change in supply networks opens window
- **Agenda:** Through integration with Shenghe, Greenland to become a *cornerstone* supplier to global industry

Multi Element Advantage: By-Products Strengthen Economics

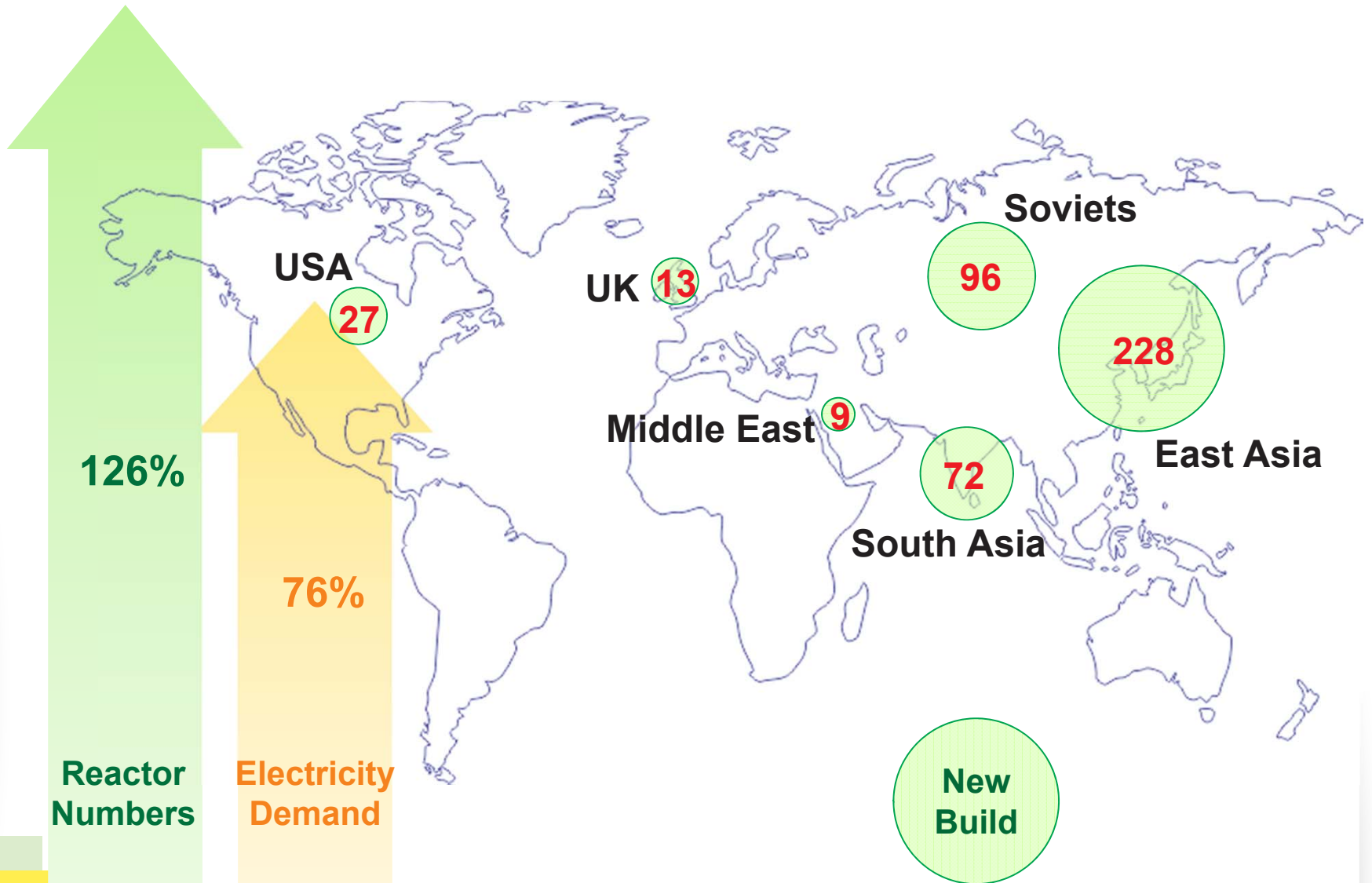
Kvanefjeld

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- Uranium is to be a key by-product from the Kvanefjeld, with strong demand outlook
- Recovered at a very low incremental cost (<\$5/lb U_3O_8), thereby providing a stable revenue stream
- Zinc concentrate (sphalerite) and fluorspar are to be produced at the concentrator circuit
- GMEL looking into recovering further by-products from the leach solution, with technical support from Shenghe and IMUMR

Energy from Nuclear by 2030

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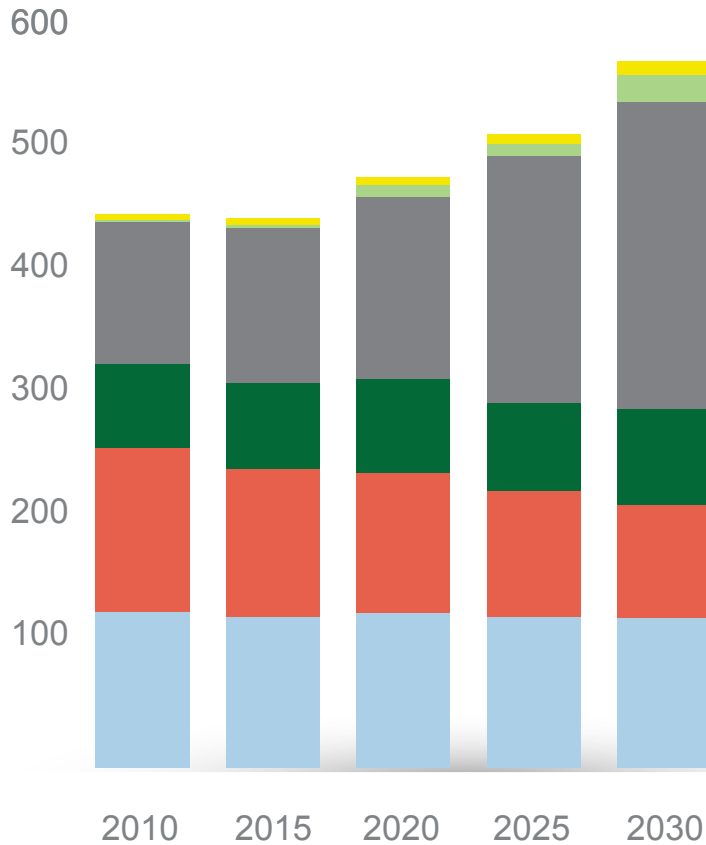


Source: World Nuclear Association

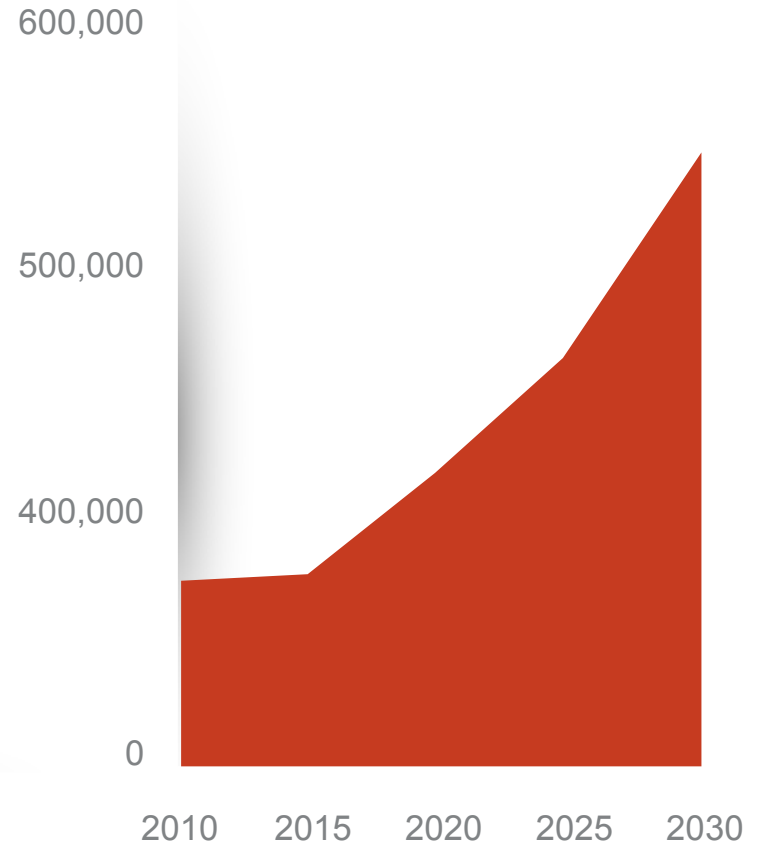
Growth in Reactors and Nuclear Capacities

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Reactor Units



Capacity (MWe)



- North America
- Eastern Europe
- Africa & Middle East
- Western Europe
- Asia & Oceania
- South America

Total Mwe

Kvanefjeld - Strong Focus on Minimising Project Impacts

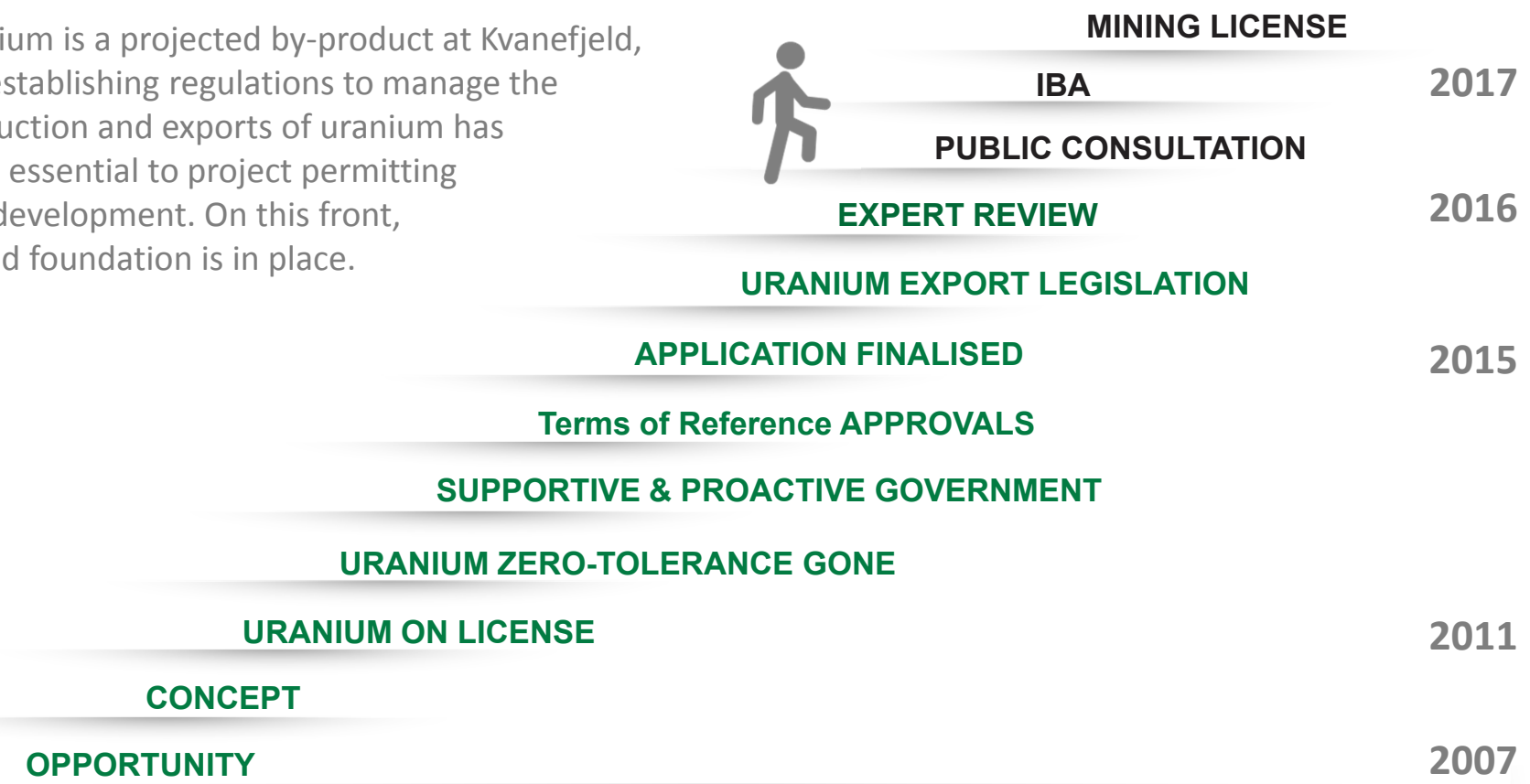


- The confluence of access, scale and process advantage at Kvanefjeld cannot be replicated
- *Innovation* has been the key to unlocking the potential, ultimately accessing the value
- Development strategy established with stakeholder input, and designed to minimise impacts

Towards a License to Operate

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Uranium is a projected by-product at Kvanefjeld, but establishing regulations to manage the production and exports of uranium has been essential to project permitting and development. On this front, a solid foundation is in place.



STAKEHOLDER ENGAGEMENT

Greenland Minerals and Energy Ltd

Materials for a Clean and Energy Efficient Future

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Greenland's Kvanefjeld – an optimum cornerstone to new rare earth supply chains

- **Scale** – world leading rare-earth uranium resources, poly-metallic advantage
- **Location and access** – direct shipping access, year round
- **Processing advantage** – pilot plant proven metallurgy, unique, simple methodology
- **Advanced project status** – permitting underway, key uranium legislation passed
- **Strategic partner** – Leading rare earth group Shenghe looking to jointly develop the project, provide downstream processing, and marketing to international customer base

Kvanefjeld Project – Mineral Resources



Statement of Identified Mineral Resources – (JORC-Code 2012 Compliant)

Cut-off (U ₃ O ₈ ppm) ¹	Classification	Multi-Element Resources Classification, Tonnage and Grade								Contained Metal				
		M tonnes Mt	TREO ² ppm	U ₃ O ₈ ppm	LREO ppm	HREO ppm	REO ppm	Y ₂ O ₃ ppm	Zn ppm	TREO Mt	HREO Mt	Y ₂ O ₃ Mt	U ₃ O ₈ M lbs	Zn Mt
<i>Kvanefjeld - February 2015</i>														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	172	0.71
150	Inferred	222	10,000	205	8,800	365	9,200	793	2,180	2.22	0.08	0.18	100	0.48
150	Grand Total	673	10,900	248	9,600	400	10,000	881	2,270	7.34	0.27	0.59	368	1.53
200	Measured	111	12,900	341	11,400	454	11,800	1,048	2,460	1.43	0.05	0.12	83	0.27
200	Indicated	172	12,300	318	10,900	416	11,300	970	2,510	2.11	0.07	0.17	120	0.43
200	Inferred	86	10,900	256	9,700	339	10,000	804	2,500	0.94	0.03	0.07	49	0.22
200	Grand Total	368	12,100	310	10,700	409	11,200	955	2,490	4.46	0.15	0.35	252	0.92
250	Measured	93	13,300	363	11,800	474	12,200	1,105	2,480	1.24	0.04	0.10	75	0.23
250	Indicated	134	12,800	345	11,300	437	11,700	1,027	2,520	1.72	0.06	0.14	102	0.34
250	Inferred	34	12,000	306	10,800	356	11,100	869	2,650	0.41	0.01	0.03	23	0.09
250	Grand Total	261	12,900	346	11,400	440	11,800	1,034	2,520	3.37	0.11	0.27	199	0.66
300	Measured	78	13,700	379	12,000	493	12,500	1,153	2,500	1.07	0.04	0.09	65	0.20
300	Indicated	100	13,300	368	11,700	465	12,200	1,095	2,540	1.34	0.05	0.11	82	0.26
300	Inferred	15	13,200	353	11,800	391	12,200	955	2,620	0.20	0.01	0.01	12	0.04
300	Grand Total	194	13,400	371	11,900	471	12,300	1,107	2,530	2.60	0.09	0.21	159	0.49
350	Measured	54	14,100	403	12,400	518	12,900	1,219	2,550	0.76	0.03	0.07	48	0.14
350	Indicated	63	13,900	394	12,200	505	12,700	1,191	2,580	0.87	0.03	0.07	54	0.16
350	Inferred	6	13,900	392	12,500	424	12,900	1,037	2,650	0.09	0.00	0.01	6	0.02
350	Grand Total	122	14,000	398	12,300	506	12,800	1,195	2,570	1.71	0.06	0.15	107	0.31

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Kvanefjeld Project – Mineral Resources



Statement of Identified Mineral Resources – (JORC-Code 2012 Compliant)

Cut-off (U ₃ O ₈ ppm) ¹	Classification	Multi-Element Resources Classification, Tonnage and Grade								Contained Metal				
		M tonnes	TREO ²	U ₃ O ₈	LREO	HREO	REO	Y ₂ O ₃	Zn	TREO	HREO	Y ₂ O ₃	U ₃ O ₈	Zn
		Mt	ppm	ppm	ppm	ppm	ppm	ppm	ppm	Mt	Mt	Mt	M lbs	Mt
Sørensen - March 2012														
150	Inferred	242	11,000	304	9,700	398	10,100	895	2,602	2.67	0.10	0.22	162	0.63
200	Inferred	186	11,600	344	10,200	399	10,600	932	2,802	2.15	0.07	0.17	141	0.52
250	Inferred	148	11,800	375	10,500	407	10,900	961	2,932	1.75	0.06	0.14	123	0.43
300	Inferred	119	12,100	400	10,700	414	11,100	983	3,023	1.44	0.05	0.12	105	0.36
350	Inferred	92	12,400	422	11,000	422	11,400	1,004	3,080	1.14	0.04	0.09	85	0.28
Zone 3 - May 2012														
150	Inferred	95	11,600	300	10,200	396	10,600	971	2,768	1.11	0.04	0.09	63	0.26
200	Inferred	89	11,700	310	10,300	400	10,700	989	2,806	1.03	0.04	0.09	60	0.25
250	Inferred	71	11,900	330	10,500	410	10,900	1,026	2,902	0.84	0.03	0.07	51	0.20
300	Inferred	47	12,400	358	10,900	433	11,300	1,087	3,008	0.58	0.02	0.05	37	0.14
350	Inferred	24	13,000	392	11,400	471	11,900	1,184	3,043	0.31	0.01	0.03	21	0.07
Project Total														
150	Measured	143	12,100	303	10,700	432	11,100	978	2,370	1.72	0.06	0.14	95	0.34
150	Indicated	308	11,100	253	9,800	411	10,200	899	2,290	3.42	0.13	0.28	172	0.71
150	Inferred	559	10,700	264	9,400	384	9,800	867	2,463	6.00	0.22	0.49	326	1.38
150	Grand Total	1010	11,000	266	9,700	399	10,100	893	2,397	11.14	0.40	0.90	593	2.42

¹There is greater coverage of assays for uranium than other elements owing to historic spectral assays. U₃O₈ has therefore been used to define the cutoff grades to maximise the confidence in the resource calculations.

²Total Rare Earth Oxide (TREO) refers to the rare earth elements in the lanthanide series plus yttrium.

Note: Figures quoted may not sum due to rounding.

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